

In the Abstract:

Replace the Abstract on page 30 with the following Abstract:

-ABSTRACT

Auto-negotiation with a communication partner includes downgrading a set of advertised communications capabilities, e.g., IEEE 802.3 capabilities, when a link with the communication partners fails to support an advertised communications capability, e.g., wire-speed. One operation includes: (1) advertising a first set of communications capabilities; (2) arriving at a first common set of communications capabilities based upon the first set of communications capabilities; (3) attempting to establish a link according to the first common set of communications capabilities; (4) failing to establish a link according to the first common set of communications capabilities; (5) downgrading the first set of communications capabilities to a second set of communications capabilities; (6) advertising the second set of communications capabilities; (6) arriving at a second common set of communications capabilities according to the second common set of communications capabilities; and (7) attempting to establish a link according to the second common set of communications capabilities.--

In the Claims:

1. Please cancel claims 6-20 and 23-29.
2. Amend claim 21 as follows:

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~~-21. A method for operating a pair of local area network devices to establish a link, the method comprising:~~

- ~~the pair of local area network devices determining a set of commonly supported operating parameters;~~
- ~~the pair of local area network devices attempting to establish a link according to the set of commonly supported operating parameters;~~
- ~~when the attempt to establish the link according to the set of commonly supported operating parameters fails, the pair of local area network devices determining a reduced set of commonly supported operating parameters; and~~
- ~~the pair of local area network devices attempting to establish a link according to the reduced set of commonly supported operating parameters.--~~

3. Please add the following new claims 30-128:

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~~--30. A semiconductor component that communicates via a wired Ethernet link with a communication device supporting two or more communication rates, the semiconductor component comprising:~~

- ~~Ethernet transceiver circuitry that supports communication at a plurality of rates;~~
- ~~a first advertisement comprising a first indication of at least one of the plurality of rates;~~
- ~~the Ethernet transceiver circuitry sending the first advertisement to the communication device;~~

the Ethernet transceiver circuitry attempts to establish communication at a first rate that conforms to the first advertisement, the first rate having a corresponding counterpart in the two or more communication rates of the communication device;

a second advertisement comprising a second indication of at least one of the plurality of rates, the second indication differing from the first indication, the second advertisement constructed based upon a result of the attempt to establish communication at the first rate;

the Ethernet transceiver circuitry sending the second advertisement to the communication device; and

the Ethernet transceiver circuitry attempts to establish communication at a second rate that conforms to the second advertisement, the second rate having a corresponding counterpart in the two or more communication rates of the communication device.--

--31. The semiconductor component of claim 30, wherein the wired Ethernet link comprises Category 5 cabling.--

--32. The semiconductor component of claim 30, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--

--33. The semiconductor component of claim 32, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

--34. The semiconductor component of claim 30, wherein the plurality of rates comprise one thousand (1000) Mbps.--

--35. The semiconductor component of claim 34, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--36. The semiconductor component of claim 30, wherein the first indication identifies each of the plurality of rates.--

--37. The semiconductor component of claim 36, wherein the second indication does not identify the first rate.--

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--38. The semiconductor component of claim 30, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--39. The semiconductor component of claim 38, wherein the second indication also does not identify the first rate.--

--40. The semiconductor component of claim 30, wherein the first indication identifies at least a highest rate of the plurality of rates.--

--41. The semiconductor component of claim 40, wherein the second indication does not identify the highest rate.--

--42. The semiconductor component of claim 30, wherein the second rate is greater than the first rate.--

--43. The semiconductor component of claim 30, wherein the plurality of rates include three or more rates.--

--44. The semiconductor component of claim 43, wherein the first rate is greater than the second rate.--

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--45. The semiconductor component of claim 43, wherein the second rate is greater than the first rate.--

--46. The semiconductor component of claim 43, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--47. The semiconductor component of claim 43, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--

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--48. A semiconductor component that communicates via a wired Ethernet link with a communication device supporting two or more rates, the semiconductor component comprising:

Ethernet transceiver circuitry that supports communication at a plurality of rates;

a first indication that identifies the plurality of rates;

the Ethernet transceiver circuitry sending the first indication to the communication device via the wired Ethernet link;

the Ethernet transceiver circuitry attempts to establish communication at a first rate consistent with the first indication and having a corresponding counterpart in the two or more rates of the communication device;

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the Ethernet transceiver circuitry sending a second indication to the communication device upon a failure to establish acceptable communication at the first rate, the second indication identifying at least one of the plurality of rates but not the first rate; and

the Ethernet transceiver circuitry attempts to establish communication at a second rate consistent with the second indication and having a corresponding counterpart in the two or more rates of the communication device.--

--49. The semiconductor component of claim 48, wherein the wired Ethernet link comprises Category 5 cabling.--

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--50. The semiconductor component of claim 48, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--

--51. The semiconductor component of claim 50, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

--52. The semiconductor component of claim 48, wherein the plurality of rates comprise one thousand (1000) Mbps.--

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--53. The semiconductor component of claim 52, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--54. The semiconductor component of claim 48, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--55. The semiconductor component of claim 54, wherein the second indication does not identify a highest rate of the plurality of rates.--

--56. The semiconductor component of claim 48, wherein the second rate is greater than the first rate.--

--57. The semiconductor component of claim 48, wherein the second rate is less than the first rate.--

--58. The semiconductor component of claim 48, wherein the plurality of rates include three or more rates.--

--59. The semiconductor component of claim 58, wherein the first rate is greater than the second rate.--

--60. The semiconductor component of claim 58, wherein the second rate is greater than the first rate.--

--61. The semiconductor component of claim 48, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--62. The semiconductor component of claim 48, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--

~~--63. A semiconductor component that communicates via a wired Ethernet link with a communication device supporting two or more communication rates, the semiconductor component comprising:~~

~~Ethernet transmitter circuitry that supports communication at a plurality of rates;~~

~~Ethernet receiver circuitry that supports communication at the plurality of rates;~~

~~a first advertisement comprising a first indication of at least one of the plurality of rates;~~

~~the Ethernet transmitter circuitry sending the first advertisement to the communication device;~~

~~the Ethernet receiver circuitry receiving an indication of the two or more communication rates of the communication device;~~

~~the Ethernet transmitter circuitry and the Ethernet receiver circuitry attempt to establish communication at a first rate that conforms to the first advertisement and the two or more communication rates of the communication device;~~

~~a second advertisement comprising a second indication of at least one of the plurality of rates, the second indication differing from the first indication;~~

~~the Ethernet transmitter sending the second advertisement to the communication device; and~~

~~the Ethernet transmitter circuitry and the Ethernet receiver circuitry attempt to establish communication at a second rate that conforms to the second advertisement and the two or more communication rates of the communication device.--~~

--64. The semiconductor component of claim 63, wherein the wired Ethernet link comprises Category 5 cabling.--

--65. The semiconductor component of claim 63, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--

--66. The semiconductor component of claim 65, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

--67. The semiconductor component of claim 63, wherein the plurality of rates comprise one thousand (1000) Mbps.--

--68. The semiconductor component of claim 67, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--69. The semiconductor component of claim 63, wherein the first indication identifies each of the plurality of rates.--

--70. The semiconductor component of claim 69, wherein the second indication does not identify the first rate.--

--71. The semiconductor component of claim 63, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--72. The semiconductor component of claim 71, wherein the second indication also does not identify the first rate.--

--73. The semiconductor component of claim 63, wherein the first indication identifies at least a highest rate of the plurality of rates.--

--74. The semiconductor component of claim 73, wherein the second indication does not identify the highest rate.--

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--75. The semiconductor component of claim 63, wherein the second rate is greater than the first rate.--

--76. The semiconductor component of claim 63, wherein the plurality of rates include three or more rates.--

--77. The semiconductor component of claim 76, wherein the first rate is greater than the second rate.--

--78. The semiconductor component of claim 76, wherein the second rate is greater than the first rate.--

--79. The semiconductor component of claim 76, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--80. The semiconductor component of claim 76, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--

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--81. A semiconductor component that communicates via a wired Ethernet link with a communication device supporting two or more rates, the semiconductor component comprising:

Ethernet transmitter circuitry that supports communication at a plurality of rates;

Ethernet receiver circuitry that supports communication at the plurality of rates;

a first indication that identifies the plurality of rates;

the Ethernet transmitter circuitry sending the first indication to the communication device via the wired Ethernet link;

the Ethernet transmitter circuitry and the Ethernet receiver circuitry attempt to establish communication at a first rate consistent with the first indication and having a corresponding counterpart in the two or more rates of the communication device;

the Ethernet transmitter circuitry sending a second indication to the communication device upon a failure to establish acceptable communication at the first rate, the second indication identifying at least one of the plurality of rates but not the first rate; and

the Ethernet transmitter circuitry and the Ethernet receiver circuitry attempt to establish communication at a second rate consistent with the second indication and having a corresponding counterpart in the two or more rates of the communication device.--

--82. The semiconductor component of claim 81, wherein the wired Ethernet link comprises Category 5 cabling.--

--83. The semiconductor component of claim 81, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--

--84. The semiconductor component of claim 83, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

--85. The semiconductor component of claim 81, wherein the plurality of rates comprise one thousand (1000) Mbps.--

--86. The semiconductor component of claim 85, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--87. The semiconductor component of claim 81, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--88. The semiconductor component of claim 81, wherein the second indication does not identify a highest rate of the plurality of rates.--

--89. The semiconductor component of claim 81, wherein the second rate is greater than the first rate.--

--90. The semiconductor component of claim 81, wherein the second rate is less than the first rate.--

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--91. The semiconductor component of claim 81, wherein the plurality of rates include three or more rates.--

--92. The semiconductor component of claim 91, wherein the first rate is greater than the second rate.--

--93. The semiconductor component of claim 91, wherein the second rate is greater than the first rate.--

--94. The semiconductor component of claim 81, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--95. The semiconductor component of claim 81, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--

~~--96. A wired Ethernet communication system comprising:~~

~~a first Ethernet communication device that supports communication at a plurality of rates;~~

~~a second Ethernet communication device coupled to the first Ethernet communication device via a wired Ethernet link and supporting two or more communication rates;~~

~~a first advertisement comprising a first indication of at least one of the plurality of rates;~~

~~the first Ethernet communication device sending the first advertisement to the second Ethernet communication device;~~

~~the first Ethernet device and the second Ethernet device attempt to establish communication at a first rate that conforms to the first advertisement, the first rate having a corresponding counterpart in the two or more communication rates of the communication device;~~

~~a second advertisement comprising a second indication of at least one of the plurality of rates, the second indication differing from the first indication, the second advertisement constructed based upon a result of the attempt to establish communication at the first rate;~~

~~the first Ethernet device sending the second advertisement to the second Ethernet device upon a failure to establish acceptable communication at the first rate; and~~

~~the first Ethernet device and the second Ethernet device attempt to establish communication at a second rate that conforms to the second advertisement, the second rate having a corresponding counterpart in the two or more communication rates of the communication device.--~~

--97. The wired Ethernet communication system of claim 96, wherein the wired Ethernet link comprises Category 5 cabling.--

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~~--98. The wired Ethernet communication system of claim 96, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--~~

--99. The wired Ethernet communication system of claim 98, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

--100. The wired Ethernet communication system of claim 96, wherein the plurality of rates comprise one thousand (1000) Mbps.--

--101. The wired Ethernet communication system of claim 100, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--102. The wired Ethernet communication system of claim 96, wherein the first indication identifies each of the plurality of rates.--

--103. The wired Ethernet communication system of claim 102, wherein the second indication does not identify the first rate.--

--104. The wired Ethernet communication system of claim 96, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--105. The wired Ethernet communication system of claim 104, wherein the second indication also does not identify the first rate.--

--106. The wired Ethernet communication system of claim 96, wherein the first indication identifies at least a highest rate of the plurality of rates.--

--107. The wired Ethernet communication system of claim 106, wherein the second indication does not identify the highest rate.--

--108. The wired Ethernet communication system of claim 96, wherein the first rate is greater than the second rate.--

--109. The wired Ethernet communication system of claim 96, wherein the plurality of rates include three or more rates.--

--110. The wired Ethernet communication system of claim 109, wherein the first rate is greater than the second rate.--

--111. The wired Ethernet communication system of claim 109, wherein the second rate is greater than the first rate.--

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--112. The wired Ethernet communication system of claim 109, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--113. The wired Ethernet communication system of claim 109, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--

--114. A wired Ethernet communication system comprising:

a first Ethernet communication device that supports communication at a plurality of rates;

a second Ethernet communication device coupled to the first Ethernet communication device via a wired Ethernet link and supporting two or more communication rates;

a first indication that identifies the plurality of rates;

the first Ethernet communication device sending the first indication to the second communication device via the wired Ethernet link;

the first Ethernet communication device and the second Ethernet communication device attempt to establish communication at a first rate consistent with the first indication and having a corresponding counterpart in the two or more rates of the communication device;

the first Ethernet communication device sending a second indication to the second Ethernet communication device upon a failure to establish acceptable communication at the first rate, the second indication identifying at least one of the plurality of rates but not the first rate; and

the first Ethernet communication device and the second Ethernet communication device attempt to establish communication at a second rate consistent with the second indication and having a corresponding counterpart in the two or more rates of the communication device.--

--115. The wired Ethernet communication system of claim 114, wherein the wired Ethernet link comprises Category 5 cabling.--

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--116. The wired Ethernet communication system of claim 114, further comprising a protocol that governs communication over the wired Ethernet link, and the protocol being based on IEEE 802.3.--

--117. The wired Ethernet communication system of claim 116, wherein the first advertisement and the second advertisement do not conflict with IEEE 802.3.--

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--118. The wired Ethernet communication system of claim 114, wherein the plurality of rates comprise one thousand (1000) Mbps.--

--119. The wired Ethernet communication system of claim 118, wherein the plurality of rates further comprise one hundred (100) Mbps.--

--120. The wired Ethernet communication system of claim 114, wherein the second indication does not identify those of the plurality of rates that are greater than the first rate.--

--121. The wired Ethernet communication system of claim 120, wherein the second indication does not identify a highest rate of the plurality of rates.--

--122. The wired Ethernet communication system of claim 114, wherein the second rate is greater than the first rate.--

--123. The wired Ethernet communication system of claim 114, wherein the second rate is less than the first rate.--

--124. The wired Ethernet communication system of claim 114, wherein the plurality of rates include three or more rates.--

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--125. The wired Ethernet communication system of claim 124, wherein the first rate is greater than the second rate.--

--126. The wired Ethernet communication system of claim 124, wherein the second rate is greater than the first rate.--

--127. The wired Ethernet communication system of claim 114, wherein the first rate is a greatest rate of the plurality of rates and the second rate is less than the greatest rate of the plurality of rates.--

--128. The wired Ethernet communication system of claim 114, wherein the first rate is less than a greatest rate of the plurality of rates and the second rate is greater than the first rate.--
